

*with Dr. T. J. ...*

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**Drifffield**  
**Rural District Council.**

**ANNUAL REPORT**  
of the  
**MEDICAL OFFICER**  
**OF HEALTH,**  
For the Year, 1914.

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1915.





# Drifffield Rural District Council.

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## Medical Officer's Annual Report for 1914.

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¶ *To the Chairman and Members of the Drifffield Rural District Council.*

MR. CHAIRMAN AND GENTLEMEN,—

I have now to present to you my Annual Report for 1914.

A marked feature is the fall of the Birth Rate. During the years 1911—1913 inclusive it averaged 22·62, in 1914 it fell to 20·329. The Birth Rate for England and Wales, less 242 towns, was 21·9 for 1914. Against this may be set off the reduction in the number of deaths among children under one year of age, amounting to 50 per cent. on last year's figures:—in 1911—1913 inclusive the rate was 108·6 on an average; in 1914 it fell to 60·75 per 1000 births: in England and Wales, less 242 towns, it was 93.

The Death Rate at all ages has also fallen, viz.: from a previous 3 years' average of 13·478 to 11·85; in England and Wales, less 242 towns it was 13·3 crude, or 12·2 standardised.

Epidemic Diseases, apart from Measles, have totalled about the same as in 1913; there were 10 cases of Enteric Fever, 9 of which occurred at Middleton-on-the-Wolds; they were probably due to polluted water supply. The average number of cases of this particular disease for the 3 years preceding 1914 being less than 4.

The epidemic of Measles was widespread, but there were no deaths in the 365 cases.

The number of cases of Tuberculosis notified fell by nearly 50 per cent., being 12 as compared with 23 in 1913, with 8 deaths as against 11.

There was an increase in the deaths from Cancer, there being 20 deaths as compared with 12 in 1913.

There was no Epidemic Diarrhoea.

## PHYSICAL FEATURES.

### General Character of the District, and condition of its Population.

The Rural District of Driffield is divided into two parts, roughly speaking, by a range of hills running from N.E. to S.W. at an elevation of between 500 and 600 feet above sea level.

To the N.W. of this range lie the dale towns, and, sloping down from it, is the larger part of the district, some 15 miles by 12.

The highest point of the Wolds rises to 700 feet, to the N.W. of Towthorpe, and the lowest, in Watton Carr, is not more than 10 feet above sea level.

The hill ranges are composed of chalk, which is said to be from 1200 to 1500 feet in thickness; underlying this are impervious beds of clay; hence the numerous springs of pure water flowing therefrom. Nearly all the water in the district comes off the chalk, and is excellent, though very hard. On the higher levels most of the water is obtained from rain water storage cisterns, as the thickness of the chalk renders boring difficult or impossible.

The average rainfall for the years 1911 to 1913 inclusive was 24·9 inches; in 1914 it was 31·17. The average for the past 10 years would be about 28½ inches.

In the flat lands to the S. and E. of Driffield, alluvial surface deposits and clay cover the chalk to the depth of 80 feet and more; and wells sunk below this yield plenty of good water. But it is quite another matter where the wells are shallow; there the water is often contaminated, and the wells tend to run dry after a long-continued drought. Where wells are used, it is of great importance that they should be sunk deeply, as is the case in the public village wells; and, above all, sufficiently protected from surface contamination, by being raised above the ground.

In addition to this, the sewers in the neighbourhood must be watertight, or percolation and infection are likely to ensue, as has probably been the case in the Middleton epidemic.

Eleven waters have been analysed (well waters), all but two of these were at Middleton; of these nine, only one was above suspicion; but that one, a private well, was extremely good—(here it may be noted that this well had a bore, whilst the others had not). The public wells have been examined more than once. Some improvement was noted, but the water was still sewage polluted, and unfit to drink.

A Local Government Board Inspector was sent down to go into the matter, and subsequently an engineer was called in to report on the provision of a pure water laid on in pipes. His report was not received by the close of 1914.

To supply the deficiency *pro tem*, the owner of the pure private well has kindly supplied water daily to the inhabitants of Middleton by means of a new water cart recently purchased for that purpose by your Council.

Of the other two waters analysed, one, at Harpham, was found pure (the case of enteric there probably arose outside the



district, at Bridlington); the other was contaminated (at Kilham). but there is nothing to prove that the disease was due to this water; in fact it was notified in the Skirlaugh district, where the patient spent his week ends regularly.

The characteristics and conditions of the population are the same as noted in my Reports for 1911 and 1912. but there is a shortage of agricultural labour owing to the War.

## POPULATION.

The surplus of births over deaths, actually taking place in Driffield during 1914, was 118; and if we estimate that 125 left the neighbourhood, and add 19 for actual increase, this will give us an estimated population of 12150 at the middle of last year.

The number of the inhabitants for the Sub-districts might then be apportioned as follows:—Driffield, 3013; Bainton, 3444; Foston, 2205; Langtoft, 3488—total 12150.

## PAUPERISM.

The number of Paupers from the Parishes in the Rural District, relieved during the year ended Dec. 31st, 1914, was—

|   |     |     |     |           |
|---|-----|-----|-----|-----------|
| Out of Door                                   | ... | ... | ... | 219       |
| Workhouse or other Institutions               | ... | ... | ... | 67        |
| Lunatics in Asylum                            | ... | ... | ... | 32        |
| Boarded-out Children and Non-resident Paupers |     |     |     | 15        |
|   |     |     |     | <hr/> 333 |

*i.e.* a rate of 2·716 per cent. of the whole population of the District, or ·447 less than in 1913.

## BIRTH RATE.

During 1914 the births of 246 children were registered in the District; and there was one transferable birth as well, making 247 in all. This is almost the same as in 1909, but much less than the average for the years 1910—13 inclusive.

The Birth Rate (nett) for the whole district was 20·329 the lowest on record, and 1·92 lower than in 1913.

### Births in the Four Sub-Districts.

|           | Population  | Legit.    | Illegit. | Total.    | Rate.        |
|-----------|-------------|-----------|----------|-----------|--------------|
| Driffield | 3013        | 59        | 6        | 65        | 21·645       |
| Bainton   | 3444        | 60        | 5        | 65        | 18·873       |
| Foston    | 2205        | 50        | 3        | 53        | 24·035       |
| Langtoft  | 3488        | 50        | 13       | 63        | 18·061       |
|           | <hr/> 12150 | <hr/> 219 | <hr/> 27 | <hr/> 246 | <hr/> 20·653 |

The Birth Rate for England and Wales, exclusive of 242 towns, was 21·9 in 1914.

The total number of Illegitimate children born in the District was 27 (5 more than in 1913), viz: 14 boys and 13 girls; and to these must be added 1 transferred from outside:—*i.e.* to say that 11·3 p.c. of all the children born were illegitimate, or nearly

three times as many as the average for the whole of the country.

Taking those actually born in the District, and excluding transferable, we have for the Sub-districts—

|           |                     |                |                         |
|-----------|---------------------|----------------|-------------------------|
| Driffield | 6 (boys 3—girls 3)  | <i>i.e.</i> 22 | per cent. of the total. |
| Bainton   | 5 (boys 2—girls 3)  | <i>i.e.</i> 18 | „ „                     |
| Foston    | 3 (boys 2—girl 1)   | <i>i.e.</i> 11 | „ „                     |
| Langtoft  | 13 (boys 7—girls 6) | <i>i.e.</i> 48 | „ „                     |

so that the number of these births has increased by more than 100 per cent. in the Langtoft Sub-district: is about the same in the Driffield Sub-district and Foston Sub-district, and has decreased by about 36 per cent. in the Bainton Sub-district. But no sound conclusions can be drawn from such small figures as those given above.

NOTE.—It will be interesting to observe what effect, if any, the quartering of so many of the military in the small towns and villages, since August 1914, will have on the Birth Rate. There have been a large number of these marriages since the war began.

## MORTALITY.

The total number of deaths registered in 1914, as dying in the district was 128: and to these 17 must be added, as belonging to the district, but having died outside; and 1 death of a non-resident must be subtracted, thus making a nett total of 144 deaths belonging to the district.

The Death Rate was 10·53 for those dying in the district, and 11·85 for the whole number, as compared with 11·11 and 13·509 in 1913—a decided fall.

The corrected Rate is 10·0725 for the total number; and this is 2·1275 less than the corrected rural rate for England and Wales, which was 12·2 in 1914.

The average age at death, including infants, was 52·43 or, exclusive of these, 58·44: the oldest (a Kilham woman) lived to 94, and 46 persons lived to upwards of 70 years.

May, June, July, August, September, and December were the healthiest months, with 44 deaths: Jannary, February, March, April, October, and November accounted for 84, with 19 deaths each in February and April.

There were 17 inquests held: in 5 of these death was due to accident, in 2 to suicide, in the remaining 10 a verdict of 'natural causes' was returned. Of the accldental deaths, 1 was caused by a traction engine, 1 by a fall from a bicycle, 1 from a trap overturning, and 1 from falling downstairs; the 2 suicides were by hanging and drowning respectively. Of these inquests 4 were held in the Driffield Sub-district, 5 in the Bainton Sub-district, 2 in the Langtoft Sub-district, and 6 in the Foston Sub-district.

Death were caused by the following diseases in 1914—

| No. actually dying<br>in the district.   |     |    | Rate in<br>1914. | 1913. | 1912. | 1911. | 1910            |
|--|-----|----|------------------|-------|-------|-------|-----------------|
| Whooping Cough                           | ... | 1  | ·082             | ·164  | ·46   | ·49   | ·37             |
| Pulm. Tuberculosis                       | ... | 6  | ·493             | ·494  | ·49   | ·66   | ·85             |
| Other Tuber. Diseases                    | ... | 2  | ·164             | ·164  | ·46   | ·41   | 1·6             |
| Cancer                                   | ... | 20 | 1·64             | 1·07  | ·902  | 1·48  | 1·23            |
| Heart Disease                            | ... | 11 | ·905             | 1·07  | 1·38  | ·907  | 2·17            |
| Bronchitis                               | ... | 7  | ·576             | ·906  | ·574  | ·99   | 1·13            |
| Pneumonia                                | ... | 7  | ·576             | ·576  | ·82   | ·825  | 1·04            |
| Diarrhoea                                | ... | 1  | ·082             | ·329  | ·164  | ·495  | ·09             |
| Congenital Debility &<br>Premature Birth |     |    | 7                | ·576  | ·906  | ·152  | No stat. avail. |

It will be seen from the above table that there have been 8 deaths from Notifiable Disease (Tuberculosis), and in addition 1 death from Whooping Cough, and 1 from Diarrhoea. The Death Rate from Pulmonary Tuberculosis is slightly less than in 1913, and will probably decrease in time with improved knowledge, and better sanitation. The Cancer rate is the highest for the past 5 years.

## INFANT MORTALITY.

This rate works out at 60·7 per 1000 births or 57·77 less than in 1913, which is a great improvement; there were 15 deaths in all, one dying outside the district:—

7, including the one outside the district, were due to Premature Birth. Debility at Birth, and Congenital Malformation; 3 were due to Pneumonia; 1 to Bronchitis; 1 to Convulsions; 1 to Diarrhoea; 1 to other causes; 1 inquest.

The rate in England and Wales for the whole country in 1914 was 105; for the rural districts, i.e. excluding the 242 towns towns it was 93.

Out of 28 illegitimate children born 3 died, giving a rate of 107 per 1000 illegitimate births, which is a large decrease on previous years, and less than the average for the whole country, but the figures are so small, that it would be unwise to draw any deduction from them.

There were 13 illegitimate children born belonging to Langtoft Sub-district, and of these two died; 5 to Bainton Sub-district, with no deaths; 7 to Driffild Sub-district, with 1 death; and no death among the 3 in the Foston Sub-district.

So that in 1914, 1 died for every 9 born; whereas in 1913, the proportion was 1 in 3, or three times as many deaths. This is satisfactory, and perhaps shews that, owing to stricter supervision, these children are attended to with greater care.



## INFECTIOUS DISEASES.

There were 418 cases of infectious disease notified in 1914, as compared with 50 in 1913, and 98 in 1912:—But of these 365 were due to Measles (not notifiable before May 17th, 1913), so that there remain 53 cases, which is less than the average. Of these 53 cases, 14 were caused by Diphtheria, 13 by Scarlet Fever, 10 by Enteric Fever, 12 by Tuberculous disease, 3 were cases of Ophthalmia Neonatorum, and 1 of Erysipelas.

7 deaths were due to Tubercle (5 Pulmonary and 2 other), but none to any other notifiable disease.

The death rate from Notifiable disease in the district was 54·7 per 1000 deaths, almost exactly half the rate of last year; and all the deaths were due to Tubercle of some kind. I think this shows that greater care has been taken of the cases of Measles, and suggests the value of Antitoxin in Diphtheria.

Owing to the Measles epidemic, it was found necessary to close the schools at Skerne, Sledmere and Wetwang in January; Fimber in February; Kilham in March, and Gembling in June. Beeford school was closed in June, owing to Diphtheria; and Luttons Amb in October, on account of Whooping Cough.

Table giving incidence of Notifiable Infectious Diseases for the whole and separate Sub-districts in 1914.

|                       | Population. | No. of Cases. | Rate per 1000 |
|-----------------------|-------------|---------------|---------------|
| Whole District        | 12150       | 418           | 34·4          |
| Driffeld Sub-district | 3013        | 62            | 20·646        |
| Bainton Sub-district  | 3444        | 46            | 13·356        |
| Foston Sub-district   | 2205        | 46            | 20·861        |
| Langtoft Sub-district | 3488        | 264           | 81·412        |

### **DRIFFIELD Sub-district.**

62 cases in all were notified: of these 52 were Measles: 4 Diphtheria, 3 Scarlet Fever, 1 Pulmonary Tuberculosis, and 2 of other forms of Tuberculosis; 3 deaths were due to Tubercular disease.

### **BAINTON Sub-district.**

46 cases in all were notified; of these 24 were Measles, 9 Enteric Fever, 6 Diphtheria, 2 Scarlet Fever, 3 Pulmonary Tuberculosis, and 2 Ophthalmia Neonatorum; 2 deaths were due to Tubercular disease.

### **FOSTON, Sub-district.**

46 cases in all were notified; of these 35 were Measles, 4 Diphtheria; 2 Scarlet Fever, 1 Pulmonary Tuberculosis, 3 of other forms of Tubercle, and 1 of Ophthalmia Neonatorum.

### **LANGTOFT Sub-District.**

264 cases in all were notified; 254 of these were Measles, and 1 each Erysipelas, Enteric Fever, Pulmonary Tuberculosis, and other Tubercular disease.

2 deaths were due to Tubercular disease in the Sub-district (including 1 transferred from Scarborough.)

[3 deaths in all from Tuberculosis occurred outside the Rural District.]



## TUBERCULOSIS.

When a notification is received, printed instructions are sent, a visit is made; as far as possible a separate bedroom is arranged, and the patient is supplied with disinfectants, and warned how to deal with the expectoration, and keep the room washed once a week, and dusted every day.

## ENTERIC FEVER AT MIDDLETON-ON-THE-WOLDS.

It may perhaps be appropriate to review here the outbreak of Enteric Fever at Middleton.

The first case, a boy of 7, was notified on Aug. 18th, 1914; the second, a girl of 9, on Aug. 26th; the third, a woman of 21, on Aug. 28th; the fourth, a woman of 28, on Sept. 2nd; the 5th and 6th, children of 10 and 9 years respectively, also on Sept. 2nd; the seventh, a woman of 45, and the eighth, a boy of 3, on Sept. 9th; and the ninth and last case, a boy of 6, on Sept. 19th. It is interesting to observe that of these nine cases only 3 were adults, and that these 3 were all women; the remaining 6 were children, all under 11 years of age. Of the 3 adults, one woman had a child attacked (12 days after herself), and another, one of whose children was notified on the 18th Aug., and the other on Sept. 2nd, took the disease herself on Sept. 9th. All the cases were in the higher part of the village, in Front and Back streets.

The blood of 8 cases was sent for examination to London; in 6 a positive reaction was given, 1 was negative, 1 doubtful; this last case was notified as suffering from Enteric Fever.

The disease was present in 6 houses; in one house there were 3 cases, in another 2, and 1 case each in other four houses. All the cases recovered.

The origin of the first case was not discovered; but it is probable that, previously in the year, there had been an unrecognised case of the disease; i.e. to say a case of diarrhoea which had escaped notice, and not been identified as Enteric; and which in some way had poisoned the drinking water with excreta.

Considering that the vast majority of Enteric cases arise from drinking polluted water, it was thought advisable to have the village water supply analysed; and separate analyses of 9 well waters were made, and in 5 of these a second analysis.

There was found only one pure water among the lot, and that was in a private well, at the Rectory; the second series of analyses proved to be better than the first, but the water was still unfit to drink, owing to pollution with sewage.

The public wells were closed, and notices were distributed to the people, warning them not to drink the water.

A new water-cart was purchased, and a man and horse provided, to take round a daily supply, which the Rector had kindly offered to give from his own (pure) well, to every house in the village.

The excreta from the patients were forbidden to be dug

into gardens, but were ordered to be put into galvanized pails, and were collected every other day by a man specially engaged for that purpose; they were mixed with petroleum, shavings, and sawdust, and burned. The midden privies were cleaned out, the superficial soil dug up, treated with quick lime, and their walls whitewashed; and the owners of house property were requested to provide proper pails for each privy.

The sewers were then tested, and they were found to leak badly, which is not surprising, considering that they had been laid down for about 35 years, with no water tight joints; moreover the pipes themselves were found to be perforated with holes, thus allowing their contents to percolate into the ground, and probably find their way into the wells.

The precise manner in which the excretal pollution found its way into the wells has not been definitely demonstrated; it may have been by percolation through the soil, directly from the privies; or by leakage from defective sewers; and, lastly, there is a possibility that the sump-hole, into which the sewers ultimately discharge, may be responsible.

In view of the fact that it is practically impossible to purify the polluted wells, that the Rectory supply is a private and limited one, and can only be used by the village as a whole temporarily and in an emergency, and that it will be dangerous for the people to go on drinking from the public wells, the question of a pure water supply had to be considered, as well as the efficient laying of the sewers, and the ultimate disposal of the sewage.

Dr. Hutchinson was sent down by the Local Government Board, and, after going thoroughly into the whole situation, came to the conclusion

- (i) That a pipe borne pure water should be provided;
- (ii) That the sewers should be properly laid;
- (iii) That the sewage should be efficiently treated.

As these operations seemed to require the opinion of an engineer, Mr. Fairbank, M.I.C.E., of York, was called in to discuss with and advise your Council as to what measures should be taken to meet the difficulties that had arisen, and to report thereon.

NOTE.—Mr. Fairbank met the Council, and went into the matter, but his report had not come to hand by the end of 1914. It has now arrived (Feb., 1915), and, although it properly belongs to the current year, yet for convenience of reference, in connection with the above report on the outbreak of Enteric, I have summarized it in an appendix at the end of the Annual Report herewith.

The only other case of Enteric Fever occurring in the district in 1914 was notified from Harpham on Sept. 26th, in a child aged 7. I made careful inquiries, but could not find that this case had been to Middleton, nor had any one from that district been in contact with her. She had, however, been staying at Bridlington a few days previously to being attacked, and it is noteworthy that there had been a fatal case of Enteric in that town, while she was there; the only case in Bridlington in 1914 up to that time; but whether she had come into contact with it could not be ascertained.



The water at Harpham (a well) was examined, and found to be a good water, and fit for drinking purposes.

## CLINICAL AND BACTERIOLOGICAL WORK.

93 specimens were sent for investigation to the Clinical Research Association in London. Of these 4 were for Tubercle, 63 for Diphtheria, 10 for Enteric Fever, and 16 of suspected water.

The subjoined table shews the results :—

|               | Positive. | Negative. | Total. |
|---------------|-----------|-----------|--------|
| Tubercle      | 1         | 3         | 4      |
| Diphtheria    | 9         | 54        | 63     |
| Enteric Fever | 6         | 4         | 10     |
| Water         | 14        | 2         | 16     |
|               | —         | —         | —      |
|               | 30        | 63        | 93     |

It will be noticed from the above that six-sevenths of the examinations for Diphtheria were negative, and if from these be subtracted a few cases in which Diphtheria had previously been present, we are still faced with the fact that five-sevenths of the examinations were barren of results, but expensive.

## GENERAL REMARKS.

A new cistern has been built at Maramatte Farm, after several futile attempts to purify and reconstruct the old ones (there was a case of Enteric Fever here in September 1911). This new one is situated on the lawn at the side of the house; it is far removed from the original ones, and takes merely the rainwater from the house roof; there is no apparent danger of contamination, and the health of the inmates is good. No pigeons are kept on the farm.

Many notices of non-notifiable infectious diseases have been received from time to time during the year from the Head Teachers of the various schools:—*e.g.* of Chicken Pox from Beeford, Luttons Ambo, Weaverthorpe, Middleton, Tibthorpe, Helperthorpe and North Frodingham; of Whooping Cough from Luttons Ambo; Sore Throats from Nafferton; and Mumps from Beeford, Nafferton, Middleton, and Langtoft; besides a few cases of dirty and verminous children from Middleton.

12 cases of Tuberculous disease were notified as against 23 cases in 1913.

The Isolation Hospital is still a desideratum; the plans have been passed by the Local Government Board, and a suitable site has been chosen in Driffield. I hope that the building will soon be commenced, but the delay is probably owing to the War.

2 cases of Anthrax were reported from Sunderlandwick in June and July, in a mare and cow respectively.

A circular was sent to the local Medical Men requesting them to communicate with me at once if any suspicion of a case of Small Pox should arise. Such cases are rendered not improbable in view of the War.

## HOUSING ACT, 1909.

During the past year 136 houses have been inspected. 2 have been found unfit for human habitation, and Closing Orders were made; subsequently these 2 were put into a fit condition for human habitation and the Orders were thereupon determined.

In 18 cases various defects in dwelling-houses were remedied without the making of Closing Orders.

7 houses were voluntarily demolished by the owners. The general defects were dampness, defective paving, defective drainage, defective privies and privy middens, and defective spouting.

New cottages are still required in the parishes of Cottam, Eastburn, Gembling, Little Kelk, Skerne, Nafferton, Hutton Cranswick, and Watton, and would be welcomed in Cowlam and Sledmere.

### **Tabular Statement under Article V. of the Housing Regulations of September 2nd, 1910.**

|   |     |
|---|-----|
| No. of dwelling houses inspected under the Act (Section 17)   | 136 |
| No. of dwelling houses found unfit for human habitation ...   | 2   |
| Representations made to the Local Authority with a view to<br>to the making of Closing Orders ... ..          | 2   |
| No. of Closing Orders made ... ..   | 2   |
| Dwelling houses in which defects were remedied without the<br>making of Closing Orders ... ..                 | 18  |
| Dwelling houses which, after making the Closing Orders,<br>were put into a fit state for human habitation ... | 2   |
| Houses voluntarily closed by Owners—none, except for want<br>of a tenant.                                     |     |

### **General Character of Defects found to exist.**

Dampness (owing to absence of damp-proof courses), defective drainage, defective privies and privy middens, defective paving of yards, defective and insufficient spouting of roofs, and a few leaky roofs.

As a whole the cottages are in a better condition than in 1913, but a good many improvements are still needed. The Owners generally meet the requests made to them without pressure, but there are yet some who are slack in this respect.

## DAIRIES & COWSHEDS.

There are 41 on the register with 171 cows—*i.e.* 6 more cowsheds and 12 more cows than in 1913. They have been frequently visited in the year, and no special defects have been reported, except in 2 cases, which were remedied.

Only 1 case of Tuberculosis in a milch cow was reported (at Cranswick); this dairy was not registered for the sale of milk; the cow was slaughtered.

## SCAVENGING AND NUISANCES.

Among the recommendations of the Local Government Board Inspector, who came down to look into the Middleton outbreak, was one in which he strongly advises that a system of house to house scavenging (voluntary or otherwise) should be adopted. With him



in this I am perfectly in accord, but I would extend it to all villages in the district, whose population exceeds 300.

There was 1 case of overcrowding at Middleton; notice was served, and the people migrated into a larger house.

Various defective privies, ashpits, drains, and gullies have undergone repairs, and many yards have been paved; the details appear in the tabular statement under the Housing Act.

## RAINFALL, 1914.

The Rainfall for 1914 has been 31.17 inches—*i.e.* about 10 inches more than in 1913, and 2 inches less than in 1912.

There were 159 wet days; November and December were the wettest months, with 23 wet days apiece, and  $8\frac{1}{2}$  inches of rain between them; March had 20 wet days, but only just over 2 inches of rain fell; and July 12 with nearly 4 inches; April and September were the driest months, there being less than 1 inch (.68) in the former.

## SEWERAGE & DRAINAGE.

The systems at Nafferton and Kilham have been regularly inspected once a month throughout the year, and are in proper working order. At the former place the sewage-raising pump has been installed, and after several failures is working satisfactorily.

As to the Middleton system, see page 7 under Enteric Fever at Middleton-on-the-Wolds; also appendix to this Report.

The Frodingham sewer has been completed, and several houses have been connected up with it; the remaining houses have now been notified to connect.

## FACTORIES & WORKSHOPS.

There are no factories in the district, but 113 workshops, or 4 more than in 1913, the majority of which are Tailors', Joiners', and Blacksmiths'. They have all been visited during the year; there was one case of want of cleanliness, and three with insufficient sanitary accommodation, and all have been remedied.

## GENERAL RECOMMENDATIONS.

The most pressing wants are an Isolation Hospital for the District; and a pure Water supply, and an adequate Sewerage system for Middleton.

Dairy cows should be veterinarily inspected, and strict cleanliness enforced among the milkers, (e.g. washing their hands).

Some system of scavenging should be introduced into the larger villages, and provision should be made for post-mortem examinations.

I remain, Gentlemen,

Your obedient Servant,

DRIFFIELD,

FEB. 20th, 1915.

THOS. SANCTUARY, M.D.

# APPENDIX.

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## MIDDLETON-ON-THE-WOLDS—Drainage and Water Supply.

(Engineers' Report—Summary, dated Jan. 30, 1915.)

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### DRAINAGE.

#### **Sewerage and Sewage Disposal.**

Mr. G. Fairbank, M.I.C.E., of York, in company with Mr. A. Dooks, Chairman of the Middleton Parish Council, examined the drains and sewage works on Dec. 7th, 1914, and took the necessary levels.

The present sewers were laid about 35 years ago, and were jointed with clay; there is only one short 3 inch ventilating shaft, and that is in the North End Road, and there are two large flushing tanks at the commencement of the sewers in Back and Front Streets respectively.

Only sewage and slop water enters these sewers; all rainfall is kept out, and goes for the most part into the village pond.

The sewage goes down the valley to two settling tanks, where it is treated with Alumino-Ferric, and the effluent runs to a sump in a plantation close at hand.

The sides and bottom of the sump were sludged up by this effluent, so that the water cannot percolate through the chalk as quickly as it comes in from the sewers; hence the sewers get waterlogged right away up to the North End Road; and three inches of sewage were found to be deposited on the outfall pipe at the N.E. manhole.

#### **Proposed Scheme.**

Sewers should be of good glazed sanitary pipes, with water-tight joints; the pipes should be of stoneware, and the joints of cement; laid in straight lines, as far as possible, with manholes at every deviation or change of gradient, and protected by concrete, where laid shallow; and they should be used solely for sewage and slop water.

It would not be worth while to relay the old sewers; but after disconnection from the drain, they might be adapted to take the rainwater, and eventually discharge it into the present sump.

The existing Flushing Tanks should be adapted for flushing the new system of sewers, and, where there are no Flushing Tanks at present, the end manholes could be used.



## Sewage Disposal.

The present Settling Tanks would be converted into Liquefying Tanks, to liquefy the solid part of the sewage; they would be covered in (the Alumino-Ferric chamber would be done away with), and they would not smell. The old sewer would be disconnected from, and the new one connected with, these tanks.

The effluent would be run on to a Bacterial Percolating Filter, and distributed thereon by a "Fiddian" Distributor. This particular type of Distributor combines three valuable properties, viz:—it distributes evenly much or little sewage; it requires very little attention; and it is unaffected by frost. The effluent rises through a cast-iron box close to the wheel by feed tubes, on which cast-iron boxes are mounted, each fitted with a weir, and over this the sewage runs on to the buckets of the water wheel.

After the effluent issues from the Filter it is clear, non-putrescent, odourless, and colourless; it would be discharged into a new sump in the chalk close by, and would rapidly soak away.

This treatment would be approved by the Local Government Board. The cost would be £1500—an inclusive sum; and the annual cost (of Capital and Interest at  $4\frac{1}{4}$  p.c. for 30 years) would be £89 8s. 4d., plus £10 per annum for supervision of works.

The Sewerage Rate would be  $10\frac{1}{2}$ d in the £ on houses, and 2-3<sup>1</sup>/<sub>5</sub>d on land.

## WATER SUPPLY.

Mr. Fairbank, in company with Mr. A. Dooks, examined the 4 public wells, the Whiting Mill well, and the old Corn Mill well, on Dec. 7th, 1914.

The present supply is from the 4 Public Wells, the depth of which varies from 70 to 90 feet, and none of them have a bore in addition. There was a depth of water on the above-mentioned date of from  $7\frac{1}{2}$  to 11 feet.

All the Public Wells and the Whiting Works Well have been analysed twice, the water on each occasion being found unfit for human consumption, and polluted with sewage.

The Whiting works well is  $128\frac{1}{2}$  feet in depth, with a bore-hole beyond it; the water in the bore hole was 8 feet below the bottom of the well.

The old Corn Mill well was dry; it has been disused for years; pig styes and cottages abut on it; from these there is no means of drainage, except through the ground.

Between December 7th and January 7th, the water levels had risen by from 34 to 44 feet in the six wells.

It is obvious that a pure supply is urgently needed.

### Proposed Supply.

The natural water supply is the rainfall on to the chalk of the Wolds; and the underground flow is nearly from W. to E. Hence the proposed well and bore-hole should be to the west of the village, on the Londesborough road, about 200 feet above the sea level.

Several farms in the vicinity could be supplied thence, either direct or by street watering posts and carts.

The Reservoir would be 40 feet above the highest point of the west end of the village, and 71 feet above the ground level of the North end. This is ample for domestic supply, and gives a fair pressure for fire protection.

### **Proposed Scheme.**

After sinking a well and bore-hole, a wind engine would be erected on the top of a steel trellis tower, fitted with platform and ladder. This engine would work a set of '3 throw' deep well pumps, and close by a suitable house, with oil engine and duplicate set of pumps (3 throw) would be provided, and either wind or oil engine could work either set of pumps. 1200 gallons of water per hour would be raised, and the machinery would be similar to that in use at Nafferton. The storage reservoir would hold 18,000 gallons, i.e., two day's supply at 15 gallons per head of the population.

CONSUMERS' SERVICES.—It is recommended that Consumers' service pipes should be employed for the better class houses, and frost-protected taps in yards in the case of groups of cottages.

### **Data.**

The scheme is framed to provide 15 gallons per head per day for 600 persons, but at present the population is about 550\*; and it has been found that at Nafferton not more than  $7\frac{1}{2}$  gallons per head per day were used from 1913—1914.

### **Approximate Estimated Outlay.**

For Well, Borehole, Machinery, Mains, Valves, Hydrants and Service Pipes, and Stop-taps, Labour, Clerk of Works, Law, Advertising, and contingencies, a sum of £2942 3s.—say a loan of £2950.

### **Annual Expenditure.**

Repayment of Capital and Interest at  $4\frac{1}{4}$  p.c. per annum for 30 years would be £175 17s., plus £65 10s. for Caretaker, Oil, Repairs and Renewals, making a total of £241 7s. to be raised yearly. This could be raised by a Water Rate, and a Rate-in-Aid, to make up any deficiency, or by a General Rate; the former is probably the better plan.

\*NOTE.—The population of Middleton at the 1911 census was 646 not 550 as above stated.

¶ Since this report was received, a Special Meeting was held on Feb. 17th, at which Mr. Fairbank was present; and it was resolved, that, before deciding upon the above proposal, one or more of the Public Wells should be bored, and the water from the bore analysed, in the hope that it might prove of sufficient purity for human consumption.



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# Sanitary Inspector's Report

For the Year Ending December 31st, 1914.

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## Housing Inspection.

During the year inspections have been made at 136 cottages. The Register is not quite completed ; some of the larger dwellings to be added.

## Nuisances.

90 Nuisances of various kinds have been dealt with, including one case of Overcrowding, three Dirty Houses, Privies and Ashpits, Leaking Roofs, Drains and Gullies, and Uneven Pathways. The work at these places has all been done without having resort to legal proceedings. Seven Cottages have been demolished and 14 New Cottages built and rebuilt.

## Drainage.

The Filter Beds at Nafferton and Kilham, and the Sewage Outfall at Middleton are visited and inspected at least once each month. The flushing of the Main Sewer at Nafferton is done monthly ; new Flushing Mains have been made near the flushing tanks, which save a large amount of labour and are more efficient. At Kilham and Middleton, water has to be led in carts for flushing purposes, and this is done as often as is found necessary.

## Water Supply.

The Wells at Butterwick, Foxholes, Beeford, Frodingham, Hutton, Helperthorpe, Skerne, and Tibthorpe, have undergone repairs during the year.

## Cowsheds and Dairies.

These have been kept under supervision and visited at various times. Four new Cowsheds have been registered during the year.

## Workshops.

These have been periodically inspected during the year. New privies have been provided at three of the Workshops, and Lime-washing done at another. All others fairly satisfactory.

JAMES W. SUMNER,

Sanitary Inspector.

